

HEAT DISSIPATING FAN ASSEMBLY

CROSS-REFERENCE TO RELATED APPLICATION

This application claims priority of Taiwanese Application No. 092206738, filed on April 28, 2003.

5 BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a heat dissipating fan, more particularly to a heat dissipating fan assembly that can increase air turbulence so as to enhance the heat
10 dissipating effect.

2. Description of the Related Art

Referring to Figure 1, a first conventional heat dissipating fan assembly has fan units connected in series, and includes interconnected first and second
15 heat dissipating members 1, 2. The first heat dissipating member 1 includes a first fan housing 11, a first motor 12 mounted within the first fan housing 11, and a first propeller 13 connected to the first motor 12. The second heat dissipating member 2 includes a second fan housing
20 21 connected to a front side of the first fan housing 11, a second motor 22 mounted within the second fan housing 21, and a second propeller 23 connected to the second motor 22. The first and second propellers 13, 23 are oriented in the same direction, i.e., the
25 directions of air inlet and air outlet are the same. When the first and second propellers 13, 23 are rotated simultaneously, air sucked by the first propeller 13

is blown out through the air outlet (not shown) of the second propeller 23, thereby providing a blowing air at one side of the fan assembly. In actual use, the blowing effect of such a conventional heat dissipating fan assembly is limited and cannot rapidly dissipate heat.

Figure 2 illustrates a second conventional heat dissipating fan 10, which can rotate within a predetermined angular distance. However, although the direction of turbulent air can be altered, air currents are likewise produced only at one side of the heat dissipating fan 10.

SUMMARY OF THE INVENTION

Therefore, the object of the present invention is to provide a heat dissipating fan assembly that can increase air turbulence so as to enhance the heat dissipating effect.

According to this invention, a heat dissipating fan assembly comprises a motor and first and second propellers. The motor has two opposite sides, and first and second shaft sections extending outwardly and respectively from the sides in opposite directions. The first and second propellers are mounted respectively on the first and second shaft sections, and rotate simultaneously to produce air currents at two opposite sides of the fan assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features and advantages of the present

invention will become apparent in the following detailed description of the preferred embodiment with reference to the accompanying drawings, of which:

Figure 1 is an exploded perspective view of a first conventional heat dissipating fan assembly;

Figure 2 is a perspective view of a second conventional heat dissipating fan;

Figure 3 is a fragmentary perspective view of the preferred embodiment of a heat dissipating fan assembly according to the present invention; and

Figure 4 is a partly sectional view of the preferred embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Figures 3 and 4, the preferred embodiment of a heat dissipating fan assembly 3 according to the present invention is shown to comprise a motor casing 4, a motor 5, first and second propellers 6, 7, two shrouds 8, 8', and a partition plate 9.

The motor casing 4 has an outer wall 42, two opposite side plates 41, 41' connected respectively to two ends of the outer wall 42 and cooperating with the outer wall 42 to confine a receiving chamber 43, and a flange 44 projecting from the outer wall 42 and around the motor casing 4.

The motor 5 is received within the receiving chamber 43. In this embodiment, the motor 5 has a rotary shaft 51, which is composed of first and second shaft sections

511, 512 extending outwardly and respectively from two opposite sides of the motor 5. A plurality of fastening units 100 pass through the motor casing 4, and engage a side surface of the motor 5 so that the motor casing 4 is connected to the motor 5.

The first propeller 6 is connected fixedly to the first shaft section 511 of the rotary shaft 51 of the motor 5 in a conventional manner, and is disposed externally of the left side plate 41 of the motor casing 4. The first propeller 6 has a plurality of first fan blades 61, each of which is inclined at a predetermined angle.

The second propeller 7 is connected securedly to the second shaft section 512 of the rotary shaft 51 of the motor 5 in a conventional manner, and is disposed externally of the right side plate 41' of the motor casing 4. The second propeller 7 has a plurality of second fan blades 71, each of which is inclined at a predetermined angle. When the motor 5 is actuated, the first and second propellers 6, 7 rotate simultaneously, thereby producing air currents at two opposite sides of the fan assembly 3.

The shrouds 8, 8' cover and protect the first and second propellers 6, 7, respectively.

The partition plate 9 is connected to and sleeved on the motor casing 4 between the first and second propellers 6, 7, and is secured to the flange 44. The

partition plate 9 is disposed between the first and second propellers 6, 7 so as to reduce interference between air flows suctioned by the first and second propellers 6, 7.

5 The heat dissipating fan assembly 3 of the present invention further includes a vertical support unit 110 connected to the motor 5. The support unit 110 has a connecting portion 111 connected to a bottom portion of the motor 5 in a conventional manner, and a supporting
10 post 112 connected to the connecting portion 111. The heat dissipating fan assembly 3 of the present invention can be configured as a stand-type or a table-type fan by selecting an appropriate length for the supporting post 112.

15 In use, when the motor 5 is actuated, the first and second shaft sections 511, 512 of the motor 5 cause the first and second propellers 6, 7 to rotate simultaneously, thereby producing air flows at two opposite sides of the fan assembly 3, as shown by the opposite arrows in
20 Figure 4. Unlike the aforementioned conventional heat dissipating fans which produce air turbulence only at one side, the heat dissipating fan assembly 3 of the present invention generates air currents substantially in all directions so that heat can be rapidly dissipated,
25 thereby achieving a good heat dissipating effect.

 It should be noted that if the heat dissipating fan assembly 3 of the present invention is rotated, a better

air flow effect can be achieved.

Moreover, the heat dissipating fan assembly 3 of the present invention uses only one motor 5, unlike the aforementioned first conventional heat dissipating fan assembly shown in Figure 1 which uses two motors 12, 22. Therefore, electric consumption and production costs are minimized accordingly.

While the present invention has been described in connection with what is considered the most practical and preferred embodiment, it is understood that this invention is not limited to the disclosed embodiment but is intended to cover various arrangements included within the spirit and scope of the broadest interpretation so as to encompass all such modifications and equivalent arrangements.